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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,421	02/07/2000	Tai-Chong Chai	71711-2-8	7481

25269 7590 08/27/2002

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EXAMINER

CRUZ, LOURDES C

ART UNIT PAPER NUMBER

2827

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/497,421

Applicant(s)

CHAI ET AL.

Examiner

Lourdes C. Cruz

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to an Amendment filed December 3, 2001.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the more than one aperture traversing members of claim 5 must be shown or the feature canceled from the claim. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office Action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12-14 recite a "plurality of unitary sidebars". Unitary by definition means undivided, whole. However, according to the description of the invention and that shown in the drawings there is only one structure comprised of multiple sidebars that can read on an undivided or whole structure (a whole structure comprised of four sidebars 52). The word "plurality" in conjunction with unitary makes the claims indefinite for it is not

clear whether a plurality of sidebars make-up for a structure with an aperture in it, or if a plurality of undivided structures make-up for a plurality of such apertures as consequence.

Claim 1 recites "a chip-support zone for the frame having defined dimensions". It is unclear to the examiner whether the chip-support zone has defined dimensions or if the frame does. Additionally, the claim recites "is smaller a corresponding dimension of the chip". Does Applicant mean smaller than a..?

Claim Rejections - 35 USC § 102

Claims 12,13,14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoo et al. (US 5661338).

Yoo discloses a lead frame 1 with side bars (See Fig. 3) defining an aperture S5 and a chip support zone said zone being smaller than the chip and each side bar having an upper surface for engaging the chip.

Yoo also teaches:

Said chip supporting zone engaging the bottom of the chip a location remote from higher stress regions

- Rectilinear side bars
- Curvilinear side bars (Fig. 2), See openings 5 under chip C
- One or more aperture traversing members (a7-a10, Fig. 6)
- Leads 3, support members T connected to the side bars
- Side bars intersecting to define corners

- An inherently present ground ring
- See Fig 2 wherein Yoo teaches edges of the outer frame defined by the side bars being disposed within the outer chip C edge (**Claim 12 and 13**)
- An apertured frame, said frame being a generally circular frame (**Claim 14**)

Regarding claim 16, see that Yoo discloses a lead frame for an integrated circuit (See Figs. 3 and 6) having a frame engaging bottom surface (part of C engaging the frame) for attachment to the frame by means of a chip attach material (Col.2, lines15-20), said chip being formed with outer edges having defined dimensions, said frame comprising:

A unitary apertured frame having a chip supporting surface said frame having an outer edge and an aperture S5 formed with an inner edge defining the through central aperture said inner and outer edges (see rectangular shaped hole, see the bars and their edges) being uniformly space apart defining therebetween a chip-support zone having defined dimensions, said outer edge of the frame being recessed (See Fig. 6) such that the frame is smaller than a corresponding dimension of the chip.

Response to Arguments

Applicant's arguments filed 5-17-02 have been fully considered. See that the prior art rejection over claims 1-8,10,11 and 15 have been withdrawn since the claims,

as best understood by the examiner, are not anticipated by the prior art. However, see that the claims have only been examined as best understood due to the 112 problems stated above. The claims seem to define a plurality of uniform sidebars, which is not found in the prior art.

Regarding all other claims, see that they have not been amended to overcome any of the 112 issues discussed in the previous Final Office Action. Therefore, the previous rejections (Including the rejection under 102 (b) over 5661338) are stated above and are assumed to be proper since Applicant has failed to traverse them.

Moreover, see that the Applicant in the response/remarks has obviated the objection to the Drawings, and that a correction to the drawings or a traversal to the objection has not been filed. See that in order to avoid the mailing of a Non-responsive Office Action, applicant should have responded to such objection and to the rejections stated.

Conclusion

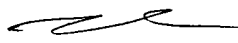
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kitano, Mori, Sawada, Yasuhara, Yamaguchi, Kajihara, Terada, Okumura, and Ishikawa disclose lead frames with window openings to reduce the popcorn effect due to thermal strain.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lourdes C. Cruz whose telephone number is 707-306-5691. The examiner can normally be reached on M-F 8:00- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbot can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-77229883 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Lourdes C. Cruz
Examiner
Art Unit 2815



Lourdes Cruz
August 13, 2002



JEROME JACKSON
PRIMARY EXAMINER